

EXECUTIVE SUMMARY

The water resources of the Weber River Basin play an integral role in the life of every basin resident. From a morning shower to a weekend trip on Pineview Reservoir, water is interwoven into nearly every activity. Use of the basin's water resources has allowed the land to be settled, has provided the basin's citizens with numerous employment and recreational opportunities, and has made possible a high quality of life. The far-reaching vision of the basin's leaders, coupled with modern engineering technology, has allowed the basin's water supply to be harnessed and used on a large scale. Water has been made so readily available, in fact, that its relative scarcity is often overlooked. This reality must be fully recognized and appropriate decisions made in order to provide sufficient water for the basin's future population.

Weber River Basin—Planning for the Future emphasizes the importance of careful planning and wise management in meeting future needs. It estimates the basin's available water supply, makes projections of water need, explores how these needs will most likely be met, and discusses the other important values of water quality and the environment. This document will be a useful guide and reference to local water planners and managers as they strive to meet the water challenges facing the basin. It will also be of help to those in the general public who are interested in making greater contributions to water-related decisions being made by local, state and federal government officials.

The following paragraphs summarize the main points of each chapter:

CHAPTER 1

INTRODUCTION: WATERS OF THE WEBER RIVER BASIN

The Weber River Basin's diverse and beautiful landscapes and its rich cultural history owe their existence to the presence of water resources. Water is the medium that helped shape many of the basin's unique natural features. It is the ingredient that caused its communities to blossom in the semi-arid climate. The basin's

natural beauty and its close proximity to the Utah's main population and commerce core in the Salt Lake Valley have contributed to the basin's rapid growth in the past and they will continue to do so in the future.

In order to meet future water needs, water planners and managers within the Weber River Basin must promote effective water conservation programs and measures. They must also ensure that agricultural water conversions are transferred to meet both indoor and outdoor urban water needs, and implement innovative water management strategies. This, along with carefully planned water developments, will secure sufficient water for the future.

CHAPTER 2

WATER SUPPLY

On average, the Weber River Basin receives 27 inches of precipitation each year; this is more than any other major river basin in Utah and double the statewide average of 13 inches. This is in large part due to the fact that more than 80 percent of the basin's land area is located at an elevation of 5,000 feet or higher and the winter "lake effect" caused by the Great Salt Lake.

The basin's 27 inches of average annual precipitation translates into an average total water volume of 3.453 million acre-feet. Approximately 68 percent of this amount is consumed by vegetation and natural systems before it makes its way into the basin's rivers, streams and ground water aquifers where it can be used by man. Agricultural irrigation consumes approximately 170,000 acre-feet and municipal and industrial consumes about 85,000 acre-feet, leaving approximately 610,000 acre-feet of water per year that flows into the Great Salt Lake.

CHAPTER 3

POPULATION AND WATER USE TRENDS AND PROJECTIONS

According to the 2000 Census, the total population within the Weber River Basin was 472,000. The Governor's Office of Planning and Budget projects the basin's population to nearly double to about 939,000 by 2050. This tremendous growth will place increased demands on municipal and industrial (M&I) water supplies. In 2001, total M&I water use was estimated to be approximately 201,000 acre-feet. By 2050, this demand is projected to increase to about 381,000 acre-feet (this estimate is based on current per capita use rates and future population).

While M&I water demands will increase, agricultural water demands will decline as urban growth consumes irrigated farms throughout the basin. In 2003, agricultural water diversions were estimated to be about 360,000 acre-feet. By 2050, these are projected to decrease to about 194,000 acre-feet (*these projections are preliminary and subject to change*).

In addition to the changes in M&I and agricultural water demands, environmental and recreational uses of the basin's water will continue to play important roles in the future. Pressure to use water to sustain important environmental values and recreational purposes will increase.

CHAPTER 4

MUNICIPAL AND INDUSTRIAL WATER CONSERVATION: REDUCING FUTURE DEMANDS

Water conservation will play an important role in satisfying future water needs in the Weber River Basin by reducing future municipal and industrial water demands. Achieving the state's goal to reduce per capita water demand by at least 25 percent before 2050 translates into a reduced demand of approximately 92,000 acre-feet per year in the Weber River Basin.

Water providers within the basin can do several things to help ensure water conservation goals are achieved.

These are listed below and discussed in depth in Chapter 4:

- Prepare water conservation plans
- Support the information program of the Governor's Water Conservation Team
- Implement best management practices
- Set example at publicly owned facilities

The Division of Water Resources is monitoring progress toward achieving the state's water conservation goal and has measured substantial progress toward achieving this goal since 2000. Statewide, the division estimates that water use has declined about 12 percent since 2000. While it is difficult to know exactly how much conservation has been achieved in the Weber River Basin from available data, the division is confident that some of the estimated statewide savings have also been realized within the basin.

CHAPTER 5

WATER TRANSFERS AND EFFICIENT MANAGEMENT OF EXISTING SUPPLIES

Using existing developed water supplies as efficiently as possible is an important element in successfully addressing the future water needs of the Weber River Basin. The transfer of agricultural water to municipal and industrial uses will meet a large portion of the basin's future water as irrigated farmland becomes urban.

Other innovative water management strategies that will help meet future needs include:

- Conjunctive use of surface and ground water
- Secondary water systems
- Cooperative agreements
- Water reuse

The Weber River Basin is a leader in Utah and the nation when it comes to irrigating urban landscapes through secondary water systems. Out of the basins 83 public community water systems, 63 (or 76 percent) deliver secondary water to at least some of their customers. The division estimates that 68 percent of the total municipal and industrial outdoor water demand is satisfied by secondary water systems. While secondary systems within the basin have allowed high-quality water to be preserved for potable (drinking water) purposes, they have led to a higher than average water use by the basin's residents. Eventually, this high

water use will need to be addressed to ensure that basin residents do not needlessly waste the basin's water resources.

CHAPTER 6

WATER DEVELOPMENT: MEETING SUPPLY AND INFRASTRUCTURE NEEDS

The importance of water development to the inhabitants of the Weber River Basin is evident from the pioneers' initial efforts to cultivate the land to the prosperity made possible by the large water projects of the 20th Century. In order to secure sufficient water for the future, further innovative water developments will eventually be necessary within the basin.

Several water development projects have been proposed within the basin to fully utilize existing water storage. Some of these projects are discussed in the document and include the Kanesville Secondary Irrigation Project and two projects for the Snyderville Basin and Park City area. Other projects that have been investigated that would develop additional water for the Weber River Basin and other Wasatch Front areas include the Bear River Project and the Potential Green River Pipeline Project. The timing and size of these developments will depend on the ability of water conservation and other water-saving strategies to reduce water demand. All needed water developments will be based on sound engineering, economic and environmental principles.

CHAPTER 7

WATER QUALITY AND THE ENVIRONMENT: CRITICAL COMPONENTS OF WATER MANAGEMENT

If water planners and managers in the Weber River Basin are to effectively meet future water needs, they will need to do more than simply provide adequate water supplies and delivery systems. The water supply decisions they make can greatly impact water quality, the environment and recreation. For the most part, water planners and managers are aware of these impacts and are working to develop plans and strategies that will protect these important values; however, there is still much that could be done.

This chapter discusses in detail the importance of water quality and the environment to the management of the Weber River Basin's water resources, and it also elaborates some of the things being done to safeguard these important values. Some of the important water quality and environmental topics discussed include:

- Total Maximum Daily Load Program
- Preservation and restoration of riparian and flood plain corridors
- Storm water discharge permitting
- Septic tank densities
- Threatened, endangered and sensitive species
- Wetlands and the Great Salt Lake ecosystem
- Instream flow maintenance

Water planners and managers, local leaders, and interested individuals within the Weber River Basin all play important roles in the management of water quality and environmental concerns within the basin. By working closely together, they can meet these future challenges. Following the spirit of the pioneers who first settled the basin, these leaders can help ensure a promising future for subsequent generations.

CHAPTER 8

CONCLUSIONS: MAKING IT HAPPEN

The Weber River Basin is at a critical juncture. The basin lies on the north end of the fast-growing Wasatch Front where much of the state's prime agricultural land is rapidly becoming urban. The basin is also located just south of the Bear River, which is a potential source of developable water for the Wasatch Front. As a result, water managers and planners within the basin will play an important role in meeting Utah's future water needs. The basin is also entering an important phase in the effort to improve and preserve water quality and the environment. With the population expected to increase rapidly in the coming decades, water quality and other environmental problems could easily become worse before they are improved. All stakeholders need to work together to ensure that current problems are resolved in a timely fashion and that future problems are avoided. Sufficient time and resources must be devoted to these efforts in order to sculpt the best and most efficient solutions.